Patent claims

1.   A method for measuring a pressure in a region
which is closed off by a solenoid valve, having the
following steps of:
- applying a voltage to the solenoid valve,
- determining a peak point of the current flowing on
   account of the voltage,
- determining   the   pressure   based   on   the
   determination of the peak point.

2.   The method as claimed in claim 1, the peak value
of the current being measured at the peak point, and
the pressure being determined on the basis of the peak
value.

3.   The method as claimed in claim 1 or 2, the
pressure being determined by means of a family of
characteristic curves.

4.   The method as claimed in claim 1, 2 or 3, the
pressure being determined by calculation.

5.   The method as claimed in one of the preceding
claims 1 to 4, the voltage being increased step by step
by increasing a pulse width modulation ratio step by
step, and the pressure being determined on the basis of
the pulse width modulation ratio at the peak point.

6.   The method as claimed in claim 5, the peak value
of the current being determined from the pulse width
modulation ratio at the peak point and a coil
resistance of the solenoid valve, and the pressure
being determined on the basis of the peak value.

7.   The method as claimed in one of the preceding
claims 1 to 6, a temperature dependence of the coil
resistance of the solenoid valve being taken into

account for determining the pressure on the basis of
the peak value of the current.

8.   The method as claimed in one of the preceding
claims 5, 6 or 7, the pulse width modulation ratio at
the peak point being referred to a standard voltage.

9.   The method as claimed in claim 8, the solenoid
valve being calibrated by means of the standard
voltage.

10.   The method as claimed in one of the preceding
claims 1 to 9, the region being a working volume of a
gas spring, in particular of an air spring.

11.   A computer program for calculating a pressure in a
region which is closed off by a solenoid valve, having
program means for carrying out the following steps of:
-     determining a peak point of the current flowing on
      account of a voltage applied to the solenoid
      valve,
-     determining the pressure on the basis of the
      determination of the peak point.

12.   The computer program as claimed in claim 11, the
pressure being determined on the basis of the peak
value of the current at the peak point.

13.   The computer program product as claimed in claim
11 or 12, having a characteristic curve for determining
the pressure on the basis of the peak value of the
current at the peak point.

14.   The computer program product as claimed in claim
11, 12 or 13, the program means being designed for
calculating the pressure on the basis of the peak
point.

15.   The computer program product as claimed in one of
the preceding claims 11 to 14, the program means being
designed for increasing the voltage step by step by
increasing a pulse width modulation ratio step by step,
5   and for determining the pressure on the basis of the
pulse width modulation ratio at the peak point.

16.   The computer program product as claimed in claim
15, the program means being designed for calculating
10   the peak value of the current from the pulse width
modulation ratio at the peak point and from the coil
resistance of the solenoid valve.

17.   A device for determining a pressure in a region
15   which is closed off by a solenoid valve (106; 406),
having a control unit (110; 410) for applying a voltage
to the solenoid valve, the control unit being designed
for determining a peak point (S) of the current (I)
flowing on account of the voltage and for determining
20   the pressure on the basis of the peak point.

18.   The device as claimed in claim 17, having means
(114; 420, 424) for determining the peak value
(I_switching) of the current at the peak point (S), the
25   control   unit   being   designed   for   determining   the
pressure on the basis of the peak value.

19.   The device as claimed in claim 17 or 18, the
control unit being designed for increasing step by step
30   a pulse width modulation ratio of the voltage applied
to the solenoid valve and for determining the pressure
on the basis of the pulse width modulation ratio at the
peak point.